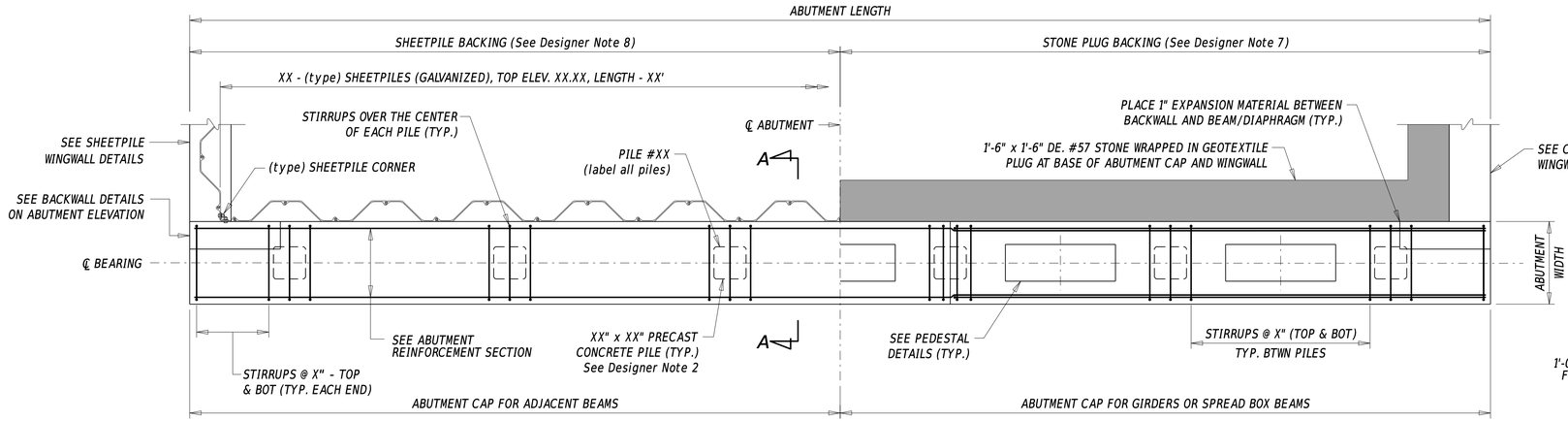
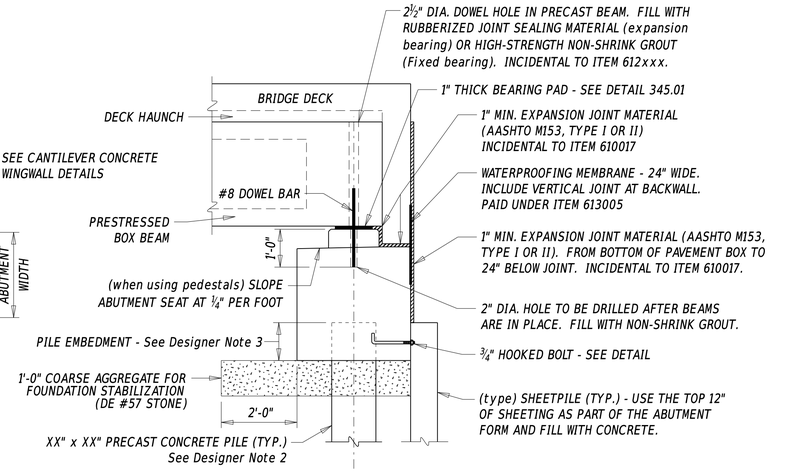


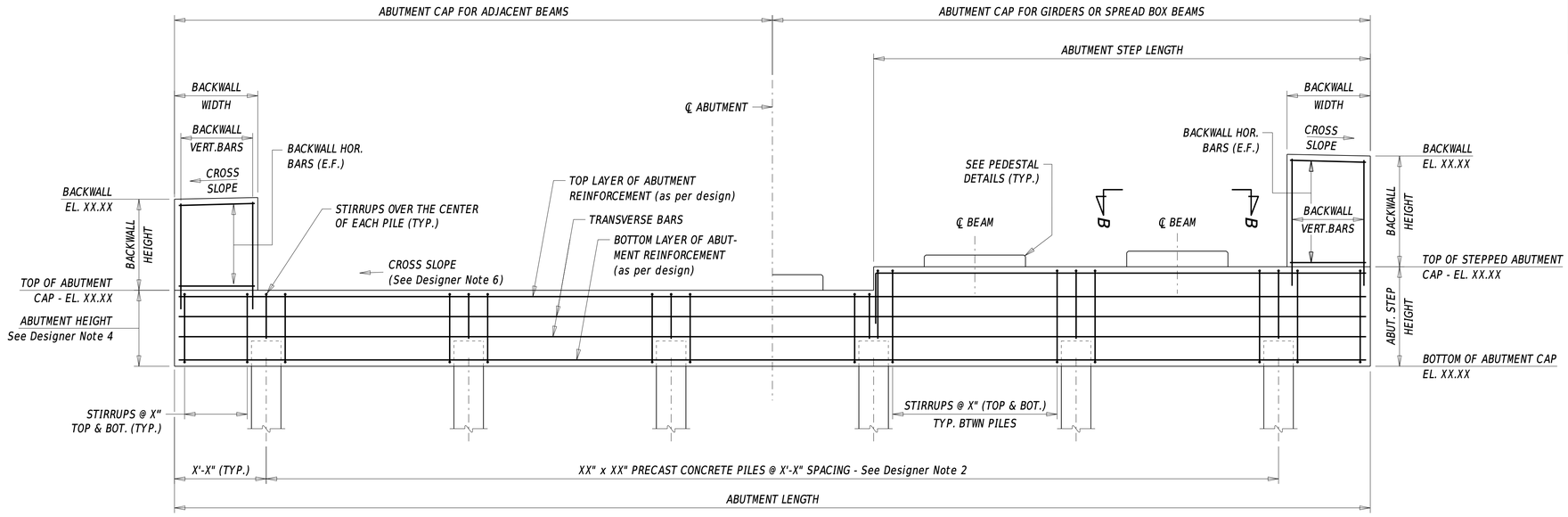
ABUTMENT (name) PLAN

See Detail 310.02, Sheet 5, Designer Note 10



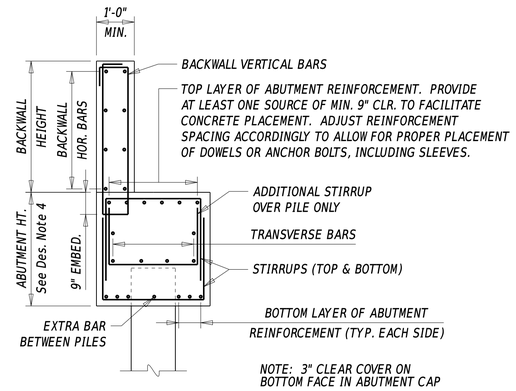
TYPICAL ABUTMENT SECTION A-A

EXAMPLE: A TYPE IIA ABUTMENT (SEMI-INTEGRAL STUB ABUTMENT) USING SPREAD BOX BEAMS ON PEDESTAL WITH SHEETPILE BACKING. FOR AN EXAMPLE USING ADJACENT BOX BEAMS, SEE DETAIL 325.01, SHEET 2, DECK SLAB POUROVER DETAIL. FOR AN EXAMPLE USING NEXT BEAMS, SEE DETAIL 330.03, SHEET 3, END DIAPHRAGM DETAIL.



ABUTMENT ELEVATION

(LOOKING AHEAD STATIONS)



SEE DETAIL 310.02 SHEET 2 FOR PEDESTAL DETAILS

ABUTMENT REINFORCEMENT

NOTE: PILE COORDINATES TABLE MAY BE PLACED ON THE BRIDGE PLAN, SECTION AND ELEVATION DEPENDING ON AVAILABLE SPACE.

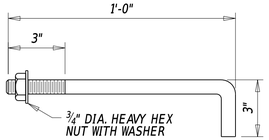
ABUTMENT PILE COORDINATES					ABUTMENT PILE COORDINATES				
POINT	STATION	OFFSET	NORTHING	EASTING	POINT	STATION	OFFSET	NORTHING	EASTING
P01	xx+xx.xx	(-)xx.xx	xxxxxx.xx	xxxxxx.xx					

PROVIDE ELEVATIONS FOR ABUTMENTS DETAILED ON THE SAME SHEET ONLY.

℄ PEDESTAL ELEVATIONS							
ABUT	BEAM	ELEV.	HEIGHT	ABUT	BEAM	ELEV.	HEIGHT
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'

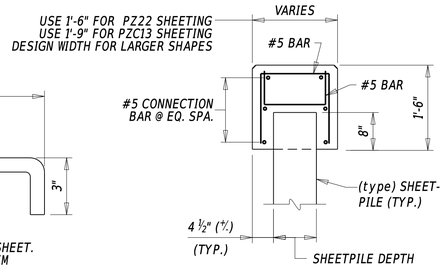
SHEET PILE NOTES:

1. PROVIDE STEEL SHEET PILES AND FABRICATED PIECES CONFORMING TO ASTM A572 GRADE 50 KSI. GALVANIZE ALL SHEETING ELEMENTS.
2. PROVIDE CONNECTION UNITS COMPATIBLE WITH THE UNITS THEY CONNECT, PERTAINING TO THE ASTM DESIGNATIONS. FOR PAYMENT PURPOSES, TREAT THE CONNECTION PIECES AS PART OF THE ADJACENT UNITS OF SHEET PILING. ALL HARDWARE IS INCIDENTAL TO THE APPROPRIATE SHEETING ITEM.

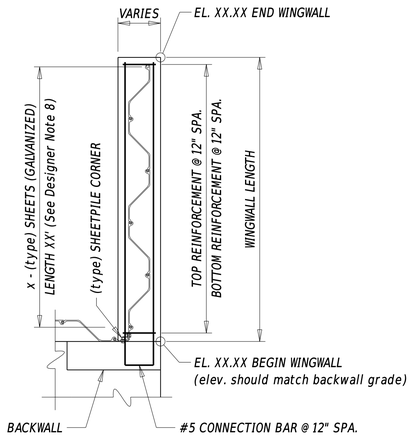


NOTE: INSTALL ONE BOLT PER SHEET. PAYMENT UNDER SHEETING ITEM

¾" ø HOOKED BOLT



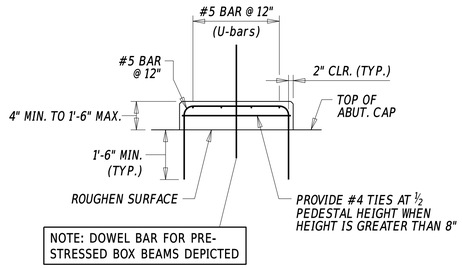
WINGWALL DETAIL



TYPICAL WINGWALL PLAN

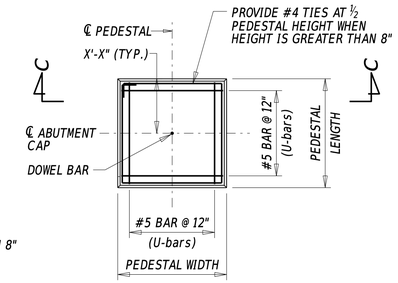
SHEETPILE WINGWALL DETAILS

NOTE: SPACE U-BARS TO AVOID CONFLICT WITH DOWEL BAR



NOTE: DOWEL BAR FOR PRE-STRESSED BOX BEAMS DEPICTED

SECTION (C-C)

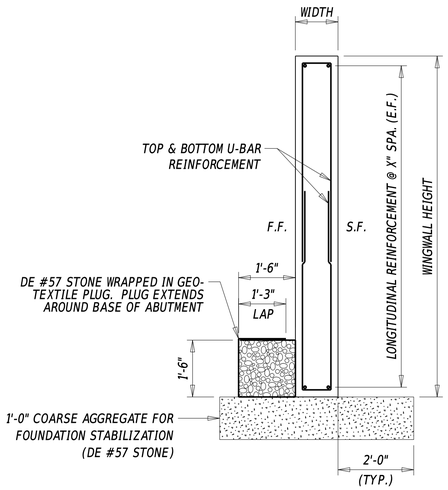


NOTE: C-L GIRDER AND SKEW NOT SHOWN FOR CLARITY.

PLAN (B-B)

PEDESTAL DETAILS

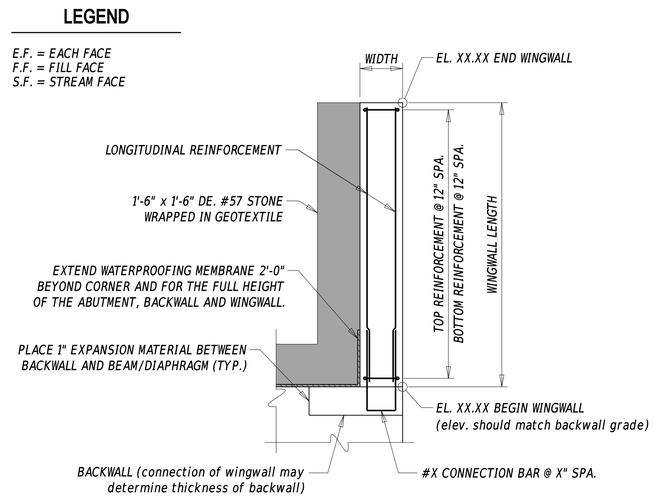
NOTE: FOR PEDESTAL WITH ANCHOR BOLTS, SEE DETAIL 310.01, SHEET 3 See Designer Note 9



TYPICAL WINGWALL SECTION

LEGEND

E.F. = EACH FACE
F.F. = FILL FACE
S.F. = STREAM FACE

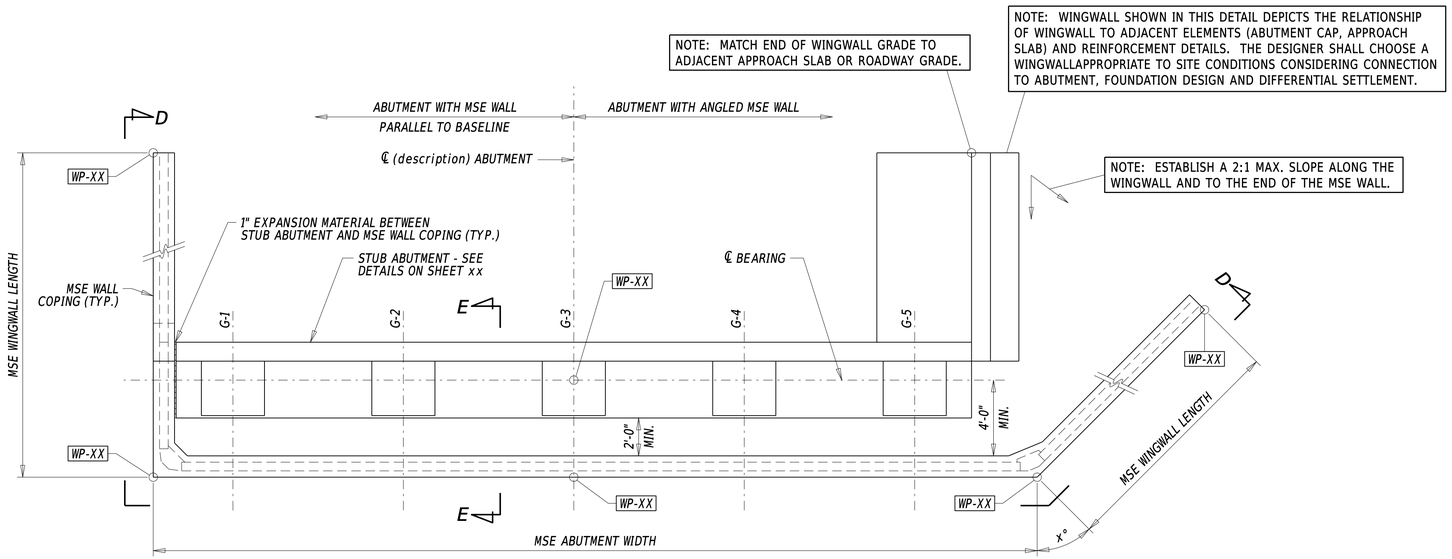


TYPICAL WINGWALL PLAN

CANTILEVER CONCRETE WINGWALL DETAILS

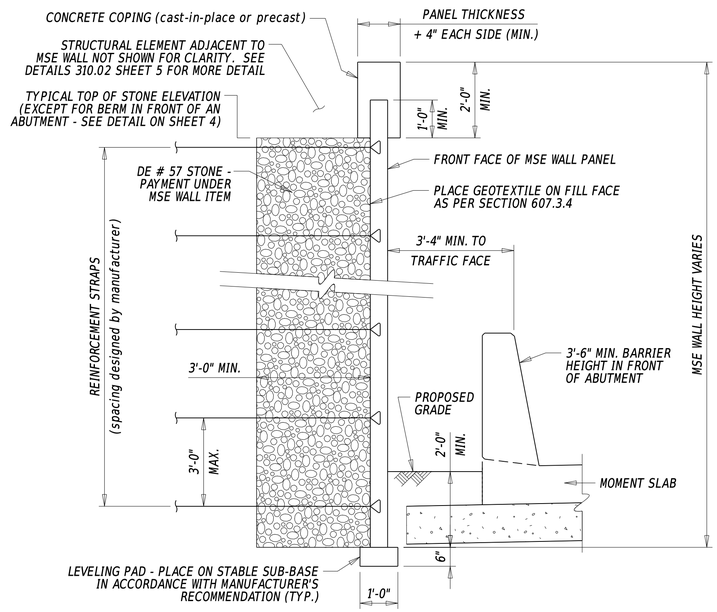
DESIGNER NOTES

1. REFER TO SECTIONS 103.6.2, 107.4.1, 210 AND 211 FOR MORE INFORMATION ON ABUTMENT DESIGN.
2. PRECAST CONCRETE PILES ARE DEPICTED IN THESE DETAILS AS THE PREFERRED OPTION FOR STUB ABUTMENTS. THE DESIGNER SHOULD BE AWARE THAT FLUTED STEEL PILE SHELLS FOR CAST-IN-PLACE CONCRETE PILES ARE NOT CURRENTLY AVAILABLE.
3. PILE EMBEDMENT IS TYPICALLY 1'-0". WITH STONE PLUG BACKING, USE 2'-0" PILE EMBEDMENT.
4. FOR ABUTMENT CAPS WITH SHEETPILE BACKING, THE MINIMUM HEIGHT IS 3'-0". WITH STONE PLUG BACKING, THE MINIMUM HEIGHT IS 4'-0".
5. THE 'PEDESTAL ELEVATIONS' TABLE MUST BE SHOWN ON THE PLANS FOR EACH PEDESTAL LOCATION.
6. IN ADJACENT BOX BEAMS BRIDGES, THE ROADWAY CROSS SLOPE MAY BE BUILT INTO THE ABUTMENT CAP IF THE CROSS SECTION GEOMETRY ALLOWS. ALTERNATELY, THE ABUTMENT CAP CAN BE MADE LEVEL, WITH THE ROADWAY CROSS SLOPE BUILT INTO THE BRIDGE DECK. THE DESIGNER SHOULD EVALUATE THE EFFECT OF EACH OPTION ON THE THICKNESS OF THE DECK (IN CONJUNCTION WITH THE PROFILE AND BEAM CAMBER). REFER TO DETAIL 325.01 SHEET 4, DESIGNER NOTE 20; BDM 106.4.2.2, 106.4.2.3.2 AND 106.9.8.1 FOR MORE INFORMATION AND CONSIDERATIONS.
7. ABUTMENT BACKING: SHEETPILE IS TYPICALLY INSTALLED WITH CAST-IN-PLACE ABUTMENTS. THE STONE PLUG IN TYPICALLY USED WITH PRECAST ABUTMENTS FOR QUICKER CONSTRUCTION. HOWEVER, THE DESIGNER MAY CHOOSE TO USE EITHER DETAIL AS APPROPRIATE TO SITE CONDITIONS.
8. SHEETPILE LAYOUTS: THE DESIGNER MAY UTILIZE PZ, PZC OR SCZ SHEETPILE SHAPES WITH APPROPRIATE COMPATIBLE CONNECTIONS AND CORNERS (see www.pilepro.com). DEPICT ONE LAYOUT THAT FITS THE PROJECT-SPECIFIC GEOMETRY. HOWEVER, BEWARE THAT THE CONTRACTOR MAY SUBMIT ALTERNATE DESIGNS AND LAYOUTS THAT DO NOT MATCH THE PLAN LAYOUT.
9. FOR MORE INFORMATION ON ALLOWABLE ALTERNATIVE BLOCKOUT SIZES, REFER TO SECTIONS 106.10.9.2, 107.4.1.5.3, AND 107.5.3 AND ALSO DETAIL NO. 345.01 - ELASTOMERIC BEARING DETAILS. NOTE THAT POTENTIAL ANCHOR RODS FOR MASONRY PLATES NOT SHOWN IN THIS DETAIL.



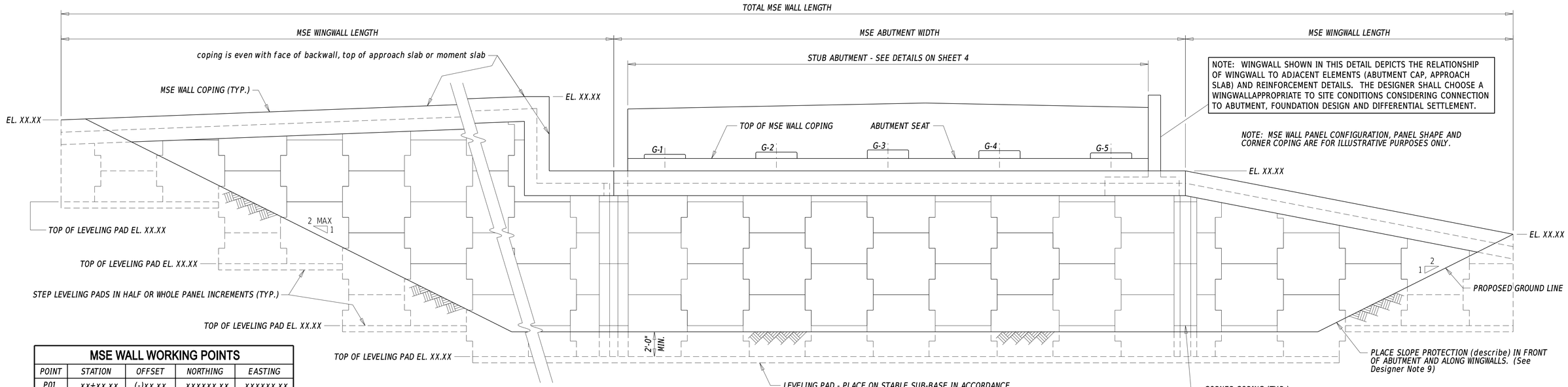
ABUTMENT (name) PLAN

See Designer Note 10



MSE WALL SECTION

See Designer Note 8

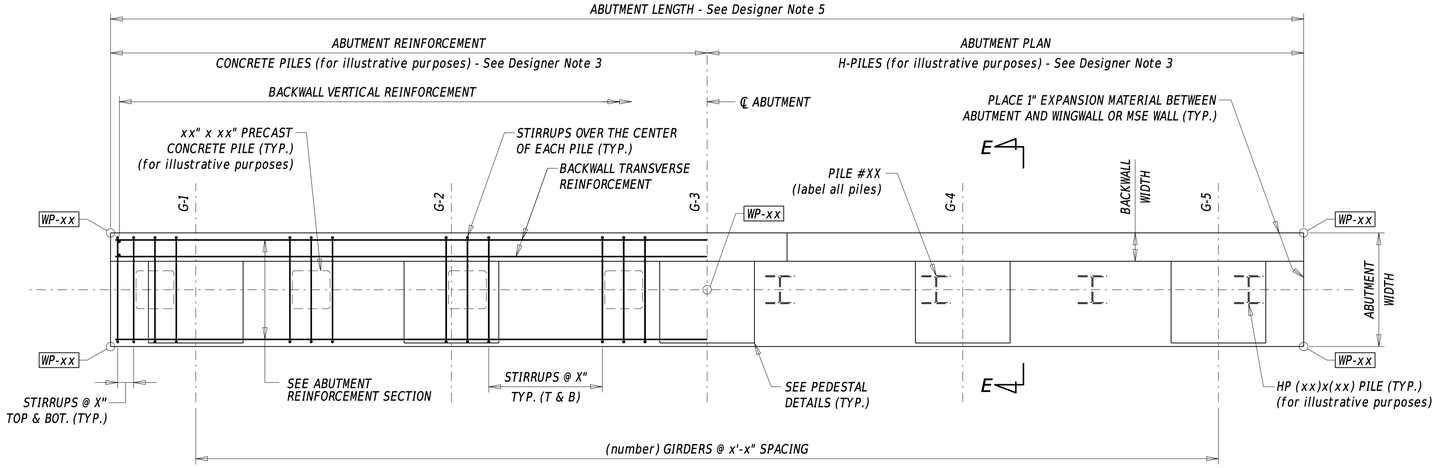


MSE WALL ELEVATION (D-D)

See Designer Note 8

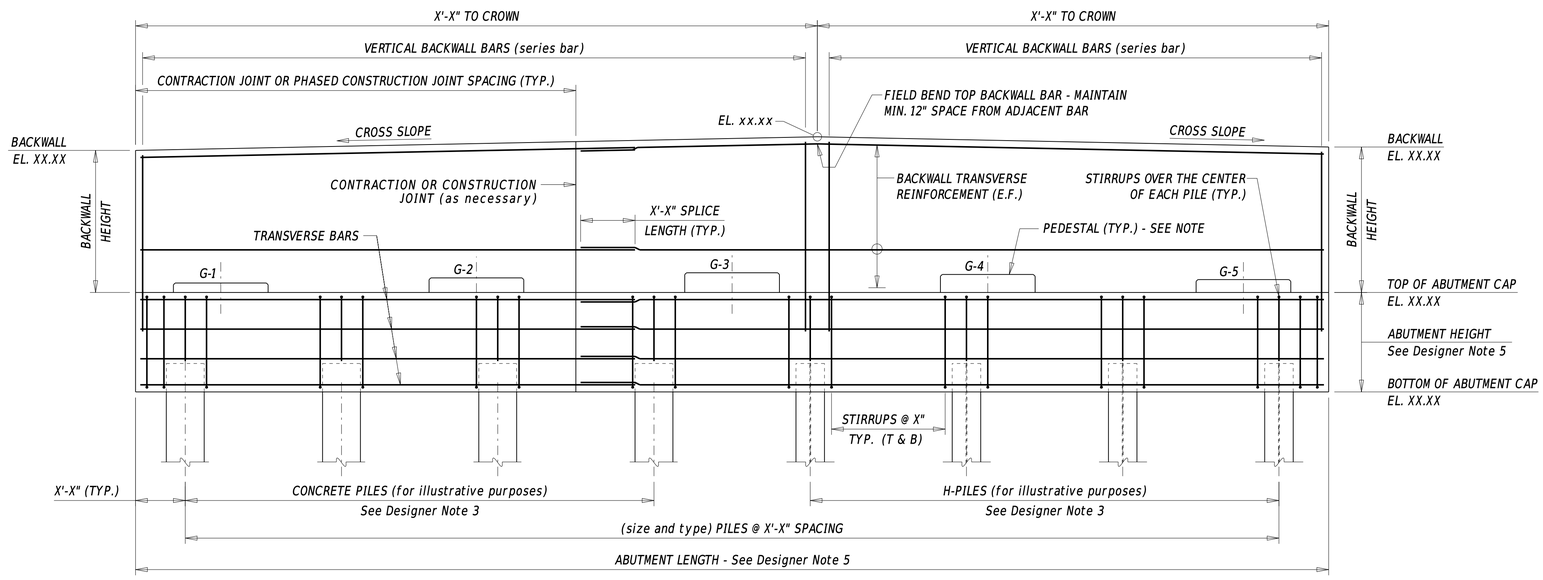
MSE WALL WORKING POINTS

POINT	STATION	OFFSET	NORTHING	EASTING
P01	xx+xx.xx	(-)xx.xx	xxxxxx.xx	xxxxxx.xx



ABUTMENT (name) PLAN AND REINFORCEMENT

See Designer Note 10



ABUTMENT ELEVATION

SEE DESIGNER NOTE #2 FOR PILE COORDINATE AND WORKING POINT NAMING CONVENTION

ABUTMENT WORKING POINTS

POINT	STATION	OFFSET	NORTHING	EASTING
WP01	xx+xx.xx	(-)xx.xx	xxxxxx.xx	xxxxxx.xx

ABUTMENT PILE COORDINATES

POINT	STATION	OFFSET	NORTHING	EASTING
P01	xx+xx.xx	(-)xx.xx	xxxxxx.xx	xxxxxx.xx

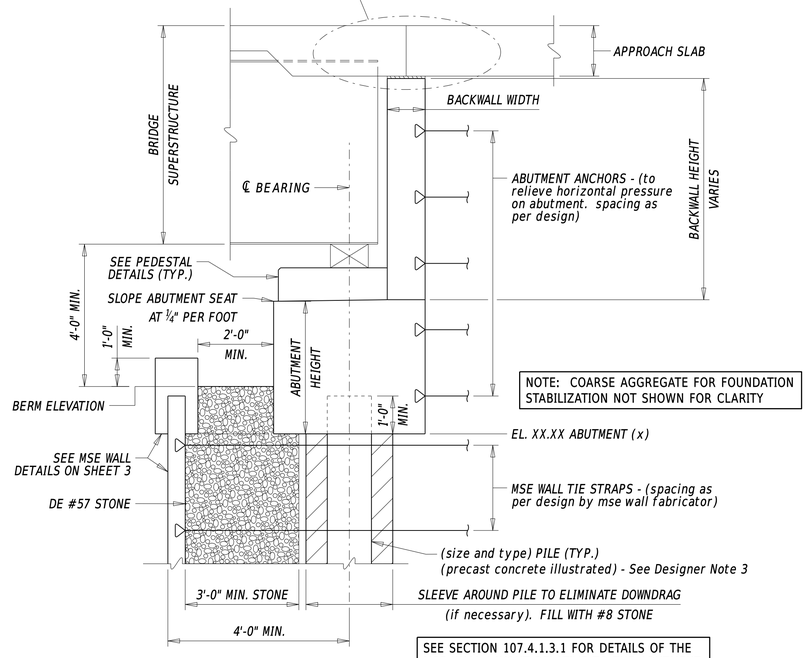
See Designer Note 2

PROVIDE ELEVATIONS FOR ABUTMENTS DETAILED ON THE SAME SHEET ONLY.

℄ PEDESTAL ELEVATIONS

ABUT	BEAM	ELEV.	HEIGHT	ABUT	BEAM	ELEV.	HEIGHT
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'
xx	x	xx.xx	x.xx'	xx	x	xx.xx	x.xx'

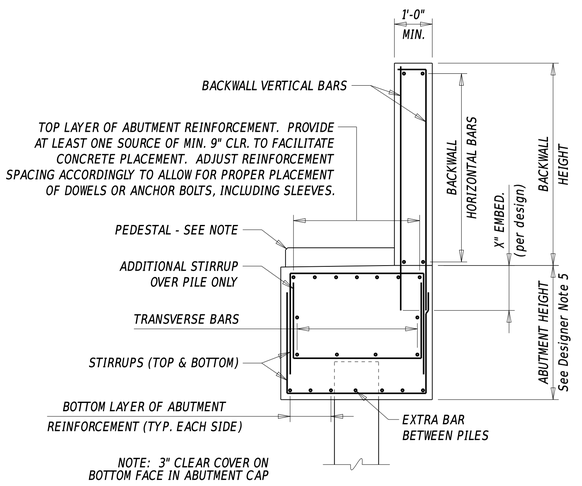
NOTE: THIS EXAMPLE DEPICTS ABUTMENT TYPE IIIA AS DESCRIBED IN BDM 103.6.2 AND AS SHOWN ON DETAIL 325.03 SHEET 1 SECTION B-B.



NOTE: COARSE AGGREGATE FOR FOUNDATION STABILIZATION NOT SHOWN FOR CLARITY

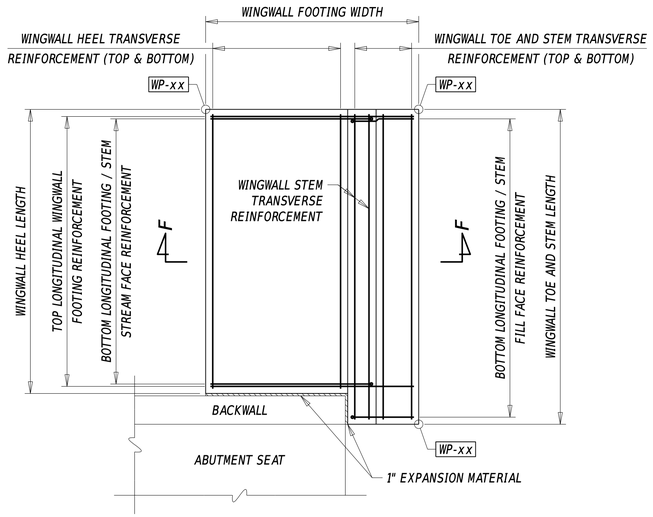
SEE SECTION 107.4.1.3.1 FOR DETAILS OF THE MSE WALL LAYOUT RELATIVE TO THE ABUTMENT

TYPICAL ABUTMENT SECTION (E-E)



SEE DETAIL 310.02 SHEET 2 FOR PEDESTAL DETAILS

ABUTMENT REINFORCEMENT



WINGWALL PLAN

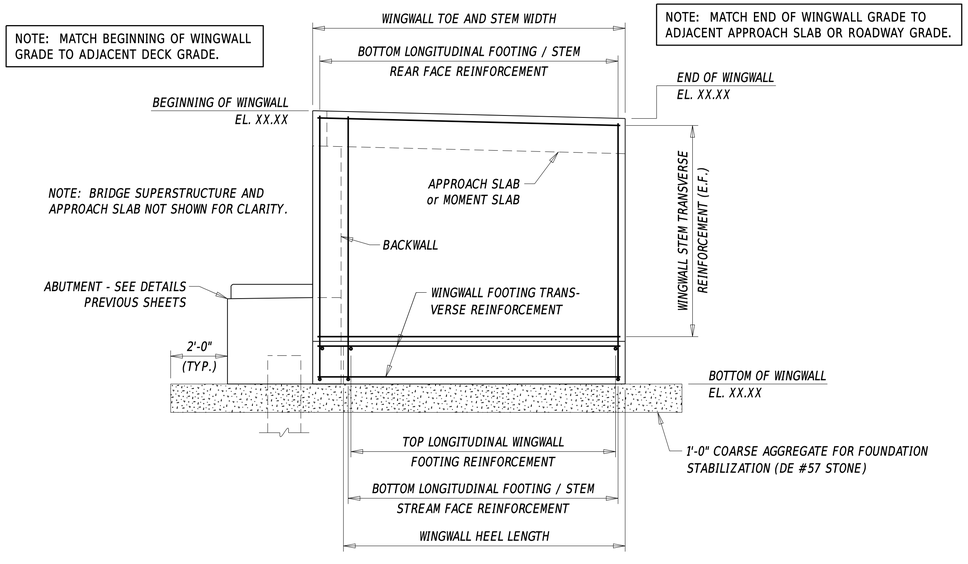
NOTE: WINGWALL SHOWN IN THIS DETAIL DEPICTS THE RELATIONSHIP OF WINGWALL TO ADJACENT ELEMENTS (ABUTMENT CAP, APPROACH SLAB) AND REINFORCEMENT DETAILS. THE DESIGNER SHALL CHOOSE A WINGWALLAPPROPRIATE TO SITE CONDITIONS CONSIDERING CONNECTION TO ABUTMENT, FOUNDATION DESIGN AND DIFFERENTIAL SETTLEMENT.

WINGWALL WORKING POINTS

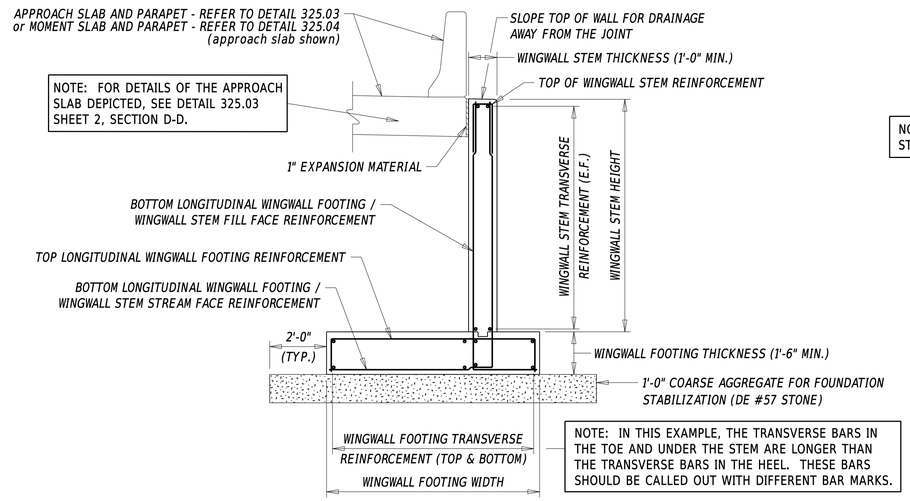
POINT	STATION	OFFSET	NORTHING	EASTING
P01	xx+xx.xx	(-)xx.xx	xxxxxx.xx	xxxxxx.xx

NOTE: MATCH BEGINNING OF WINGWALL GRADE TO ADJACENT DECK GRADE.

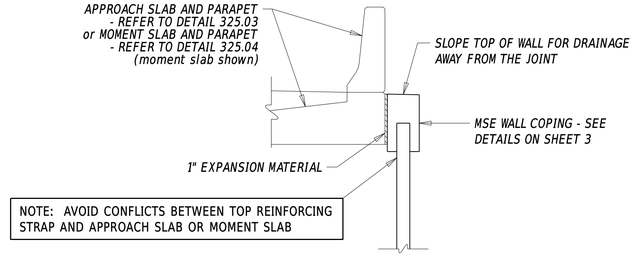
NOTE: MATCH END OF WINGWALL GRADE TO ADJACENT APPROACH SLAB OR ROADWAY GRADE.



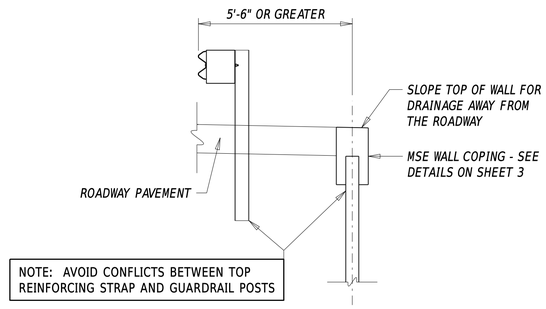
WINGWALL ELEVATION



WINGWALL SECTION (F-F)



MSE RETAINING WALL DETAIL



MSE RETAINING WALL AND GUARDRAIL DETAIL

DESIGNER NOTES

1. REFER TO SECTIONS 103.6.2, 107.4.1, 210 AND 211 FOR MORE INFORMATION ON ABUTMENT DESIGN.
2. ON SMALL PROJECTS, PILE NUMBERS AND WORKING POINTS CAN USE A NUMERICAL SEQUENCE. FOR LARGE PROJECTS, ADD A SPECIFIC IDENTIFIER FOR EACH SUBSTRUCTURE ELEMENT SUCH AS AB-xx FOR AN ABUTMENT OR P1-xx, P2-xx FOR PIERS.
3. PRECAST CONCRETE PILES OR H-PILES ARE DEPICTED IN THESE DETAILS AS THE PREFERRED OPTIONS FOR STUB ABUTMENTS WITH MSE WALLS. CHOOSE THE PILE TYPE APPROPRIATE FOR DESIGN REQUIREMENTS AND SITE CONDITIONS. THE DESIGNER SHOULD BE AWARE THAT FLUTED STEEL PILE SHELLS FOR CAST-IN-PLACE CONCRETE PILES ARE NOT CURRENTLY AVAILABLE.
4. PILE EMBEDMENT IS TYPICALLY 1'-0".
5. THE MINIMUM HEIGHT FOR THE ABUTMENT CAP IS 3'-0". INCLUDE EXPANSION OR CONTRACTION JOINTS AS PER SECTION 107.4.1.4.
6. THE 'PEDESTAL ELEVATIONS' TABLE MUST BE SHOWN ON THE PLANS FOR EACH PEDESTAL LOCATION.
7. FOR MORE INFORMATION ON ALLOWABLE ALTERNATIVE BLOCKOUT SIZES, REFER TO SECTIONS 106.10.9.2, 107.4.1.5.3, AND 107.5.3 AND ALSO DETAIL NO. 345.01 - ELASTOMERIC BEARING DETAILS. NOTE THAT POTENTIAL ANCHOR RODS FOR MASONRY PLATES NOT SHOWN IN THIS DETAIL.
8. SEE SECTION 107.6.1 AND STANDARD SPECIFICATIONS SECTION 607 FOR MORE INFORMATION ABOUT MECHANICALLY STABILIZED EARTH (MSE) WALLS. SECTION 107.6.1.2 OUTLINES THE RESPONSIBILITY OF THE DESIGNER AND THE INFORMATION TO BE INCLUDED IN THE PLANS. THE MANUFACTURER WILL DESIGN THE MSE WALL PROPOSED FOR USE ON THE PROJECT AND SUBMIT DETAILS TO THE DEPARTMENT FOR APPROVAL.
9. FOR BRIDGES OVER WATER, SLOPE PROTECTION CONSISTS OF THE DESIGNED SCOUR PROTECTION. FOR OTHER BRIDGES, PLACE R-4 RIPRAP SLOPE PROTECTION ON ALL SLOPES IN FRONT OF THE ABUTMENT (3 ' MIN. WIDTH) AND 3' WIDE ALONG THE FACE OF ALL WINGWALLS TO THE TOP OF SLOPE.
10. ABUTMENT PLAN NAMING CONVENTION - WHEN NECESSARY, IDENTIFY ABUTMENTS WITH DIFFERING DETAILS BY LABELING WITH 1/2 or A/B or A DIRECTIONAL LABEL (NORTH/SOUTH/EAST/WEST).
11. A NOTE ABOUT THE NAMING CONVENTION FOR REBAR IN THESE DETAILS. IN GENERAL, REBAR RUNNING PARALLEL TO THE BASELINE IS LABELED 'LONGITUDINAL' AND REBAR RUNNING PERPENDICULAR TO THE BASELINE IS LABELED 'TRANSVERSE.' tHE EXCEPTION TO THIS CONVENTION IS FOR WINGWALLS. SINCE WINGWALLS CAN HAVE DIFFERING ORIENTATIONS TO THE BASELINE, THE LOCAL CONVENTION FOR WINGWALLS IS APPLIED WHILE LOOKING AT THE WINGWALL ELEVATION. 'LONGITUDINAL' REBAR RUNS INTO THE PAGE AND 'TRANSVERSE' RUNS ACROSS THE FACE. ON PLANS, ALL OF THESE LABELS ARE REPLACED BY ACTUAL BAR MARKS.